D&D Focus Area International Activities in FY2002

Steve Bossart

Senior Management and Technical Advisor

National Energy Technology Laboratory

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PRESENTATION OUTLINE

USA-Russia Collaboration

USA-Argentina Collaboration

USA-United Kingdom Collaboration

Other International Technologies

Conclusion

USA-Russia Collaboration

- **In FY2001:**
  - **Gamma Locator Device and Isotope Identification Device Deployed at INEEL**
  - **Strippable and Non-Strippable Coatings Demonstration**
  - **Foam and Electrochemical Decontamination Demonstration**
- **In FY2002:**
  - **Hot Cell D&D**
  - **5 new technology R&D projects**

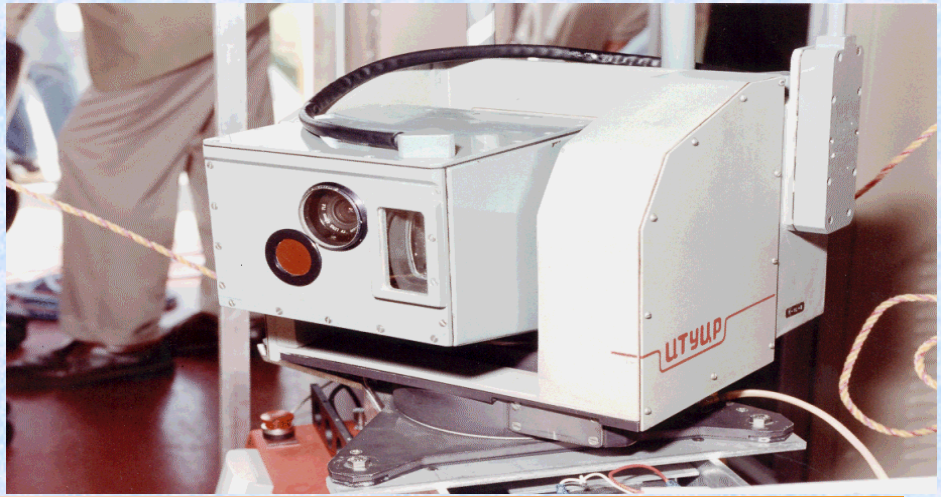
FY2001 JCCEM Activities

- **Strippable and Non-Strippable Coatings Demonstration**
  - Work planned at Florida International University
- **Foam and Electrochemical Decontamination Demonstration**
  - Collaboration between scientists and engineers at Los Alamos and VNIPIET
  - Tests ongoing at VNIPIET in St. Petersburg

FY2001 Success

Gamma Locator Device/ Isotope Identification Device (GLD/ IID)

- Demonstrated at the TAN 616 Facility
- Deployed at Cubicle 13 of PBF
- Identified several previously undetected sources



GLD/IID is an integral part of a new ASTD beginning in FY2002 at INEEL

NETL

Hot Cell SOW

Task Area 1: Hot Cell D&D Activities in Russia

- Minatom will provide a report and presentation on the technical aspects of hot cell D&D in Russia

Task Area 2: Technology Development for Hot Cells

- Minatom may submit proposal(s) for development of improved technologies for decommissioning of hot cell & DOE will review these proposal(s) for possible funding

Task Area 3: Technology Demonstration/ Deployment for Hot Cell Decommissioning

- Based on knowledge of DOE's LSDDP's & other opportunities, Minatom may submit proposal(s) for demonstration and/or deployment of mature technologies applicable to D&D of DOE's hot cells & DOE will review these proposal(s) for possible funding

Task Area 4: Workshops/ Conferences

- Minatom will participate in workshops, conferences, and meetings to exchange information on hot cell D&D projects in Russia and the technologies used

Task Area 5 : Technical Assistance

- Minatom may be requested to provide technical assistance to DOE program and project managers for hot cell d&d projects. This assistance may take various forms including: workshops/ meetings; reports/ analyses of technical alternatives; or technology test results from Russia.

New R & D Awards for FY2002

Six proposals were selected for funding in five different projects:

1. The Use of Film-Forming Compositions (Mayak)

   COMBINED WITH

   The Use of Frothed Film-Forming Compositions for Application of Localizing Coatings (Mayak)

2. Water Jet Cutter (SUE -Spektr)

3. Deposition of a Thin Film of a Fluoroepoxy (FLK-PA) Coating (Daymos)

4. Biotechnology for Decontamination of Paint-and-Varnish Surfaces (Khlopin Radium Institute)

5. Continuous Gamma Monitor (SSC-RIAR)

USA-Argentina Collaboration

- **In FY2001, DOE and CNEA conducted their first workshop on D&D Planning in Argentina on May 21-23, 2001**
- **One of the major outcomes of this workshop was a list of areas for possible collaboration, including:**
  - **Demonstration/ deployment of mature Argentine technologies in DOE projects and US technologies at nuclear facilities in Argentina**
  - **Student exchange program**
  - **Argentine R&D proposals on D&D technologies to DOE**
  - **DOE assistance in developing characterization and D&D plans for CNEA's research reactors and other facilities**
  - **US assistance in cost estimating for D&D projects in Argentina**
  - **DDFA evaluation of Atucha technology needs**
  - **DOE assistance in hosting IAEA D&D training course in Argentina**
  - **Deployment of Personal Ice Cooling System & Oxy-Gasoline Torch in Argentina**

FY2002 Activities:

DOE is currently reviewing five CNEA R&D proposals for possible funding

In late November/ early December, 2001, Petrogen International, Limited provided oxy-gasoline cutting torch training to nuclear workers in Argentina at the Atucha Nuclear Power Plant (NPP)

- Petrogen donated two oxy-gasoline torches to CNEA
- Being used to cut piping in the heavy water plant adjacent to the Atucha NPP.

In December, 2001, Med-Eng Systems provided one week of training on their Personal Ice Cooling System (PICS) to nuclear workers in Argentina at the Atucha NPP and Institute for Atomic Research in Buenos Aires

- Med-Eng Systems donated four PICS to CNEA for their use.

USA-United Kingdom Collaboration (AEA Technology)

DDFA has 6 projects with AEA Technology of the UK

- Deployment of a Sludge Mobilization System Using a Remote Controlled Articulating Nozzle
- Deployment Support for the ARTISAN Telerobotic Arm System at Hanford's Building 324
- Demonstration of a Tank Waste Retrieval System in the TA-50 Tanks at Los Alamos National Laboratory

USA-United Kingdom Collaboration (AEA Technology)

- Demonstration of a Remote-Operated Tank Waste and Debris Retrieval and Sampling System in Tanks at LANL
- High Activity Waste Minimization by In-Tank Chemical Destruction of Organic Resins
- Technical Assistance in the Area of Remote Handling and Remote Operations for the DDFA

International Technologies Deployed in DDFA LSDDP's

TECHNOLOGY	SITE (S)	COUNTRY
GLD/ IID	INEEL	Russia
PCB Analyzer	INEEL	Germany
BNFL RadScan	Hanford	UK
Envac	INEEL	Japan
Diamond Shaver	Hanford	UK
Copper Recycle	INEEL	Germany
PICS	ORNL, NTS, SRS, INEEL, Fernald	Canada

International Technologies Deployed in DDFA LSDDP's (continued)

TECHNOLOGY	SITE (S)	COUNTRY
BROKK Remote Control Demolition System	ANL, INEEL	Sweden
Remote Underwater Characterization System	INEEL	Canada
In Situ Underwater Gamma Spectrometer	INEEL	France

CONCLUSION

DDFA's work through International Programs is

- **Relevant to Site Needs**
  - IP furthers EM's Mission by bringing a broad range of talent to bear on weapon's complex cleanup problems
  - IP reduces costs by bringing in already developed technologies and developing new ones inexpensively
- **Successful**
  - GLD/IID and AEA in particular have proven to be measurably successful
- **Growing**
  - New projects with Russia and Argentina build on continuing projects with AEA and Russia

EXTRA SLIDES

Strippable & Non-Strippable Coatings

- 5 coatings selected for possible demonstration at Mound; Use of non-strippable coatings to fix loose alpha radionuclide surface contaminants during site tritium removal activities was addressed
- SW Building, and Buildings 38 and 58 at Mound were originally identified as potential applications; Demonstration of the selected coatings were subsequently moved to the HCET at FIU

Foam & Electrochemical Decontamination Technologies

- Address LANL Project Needs for "Improved Methods for Removal and Spot Removal of Contamination from Large Metal Objects"
- Los Alamos LSDDP prepared comprehensive test plans for the demonstrations of these technologies
- Tests are underway in St. Petersburg